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MARKING STRIPE AND METHOD OF APPLYING SAME

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5 Claims. (Cl. 94—1.5)

The present invention relates to marking stripes and method for the application of stripes of tape to relatively flat surfaces, and particularly to paved surfaces for the purpose of marking off lanes and areas.

The conventional painted stripes on streets and highways are disadvantageous in that it takes an appreciable amount of time for them to dry after they are painted on and they frequently become smeared before they have a chance to dry. To avoid this, the freshly painted streets and highways must be roped off to detour traffic. Freshly laid black top streets or roads cannot be striped with paint because the fresh paint is discolored by oils from the asphalt of the black top composition. Also, painted stripes have relatively poor wearing qualities. They are worn off in a relatively short time by traffic and quickly become faint and indistinguishable. Furthermore, the components of paint are affected by weather conditions such as sunlight, rain, ice and snow, and in a relatively short time the painted stripes check, crack and peel from the paved surfaces. Painted stripes also are susceptible to the deteriorating action of oils, especially modern detergent oils, salt, and abrasive materials that are applied to pavements to reduce the dangers of snow and ice on winter pavements.

Stripes of tape, on the other hand, can be laid on fresh black top, are durable to wear and action by weather conditions, and oils or chemicals, but pose a problem of tape application. The tape application method and apparatus must be efficient, and the tape should be securely attached to the smooth surface for immediate service.

Accordingly, it is an important object of the present invention to provide a method for the efficient application to surfaces of stripes of tape which are not readily deteriorated by chemical action, weather, or abrasive effects.

Another object of the invention is to provide a method for the application of stripes of tape to pavements such as those of highways, streets, tennis courts, parking lots, factory interiors, and the like.

A further object is to provide a method for efficiently applying an opaque tape stripe to a paved surface by the use of adhesive material and a roller which is protected from adhesive material squeezed out from beneath the opaque tape by transparent tape applied between the opaque tape and the roller surface to cover the squeezed out adhesive material.

A still further object of this invention is to provide a new and improved marking stripe which is readily and quickly applicable on a paved surface, is durable to wear, resistant to action by weather conditions, oils or chemicals, and is securely attached to the surface for immediate service.

Additional objects will become apparent from the following description.

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Broadly stated, apparatus for carrying out the method of the invention may comprise a moveable frame carrying adhesive material application means, roller means for applying tape stripe material to the surface, and tape feeding means or such means may optionally comprise separate hand tools, if desired. The adhesive material application means is adapted for continuously applying a stripe of adhesive material to a surface. The roller means is adapted for rolling the tape onto a stripe of adhesive material previously applied to the surface and the tape feeding means is adapted for continuously feeding tape around the roller means for application to the adhesive stripe. The method of invention comprises continuously applying a stripe of adhesive material to a surface, continuously applying opaque tape onto the adhesive stripe thus applied, and continuously applying transparent tape of somewhat greater width than the opaque tape over the freshly applied opaque tape and adhesive material squeezed out from beneath the opaque tape and beyond the edges thereof.

A more detailed description of a specific embodiment of the invention is given with reference to the drawings, wherein:

Figure 1 is a plan view showing the relationship between applied adhesive material, opaque tape and transparent tape;

Figure 2 is a schematic view illustrating the method of applying a stripe to a surface in accordance with this invention;

Figure 3 is an end view, in elevation, of adhesive material application means illustrated in Figure 2;

Figure 4 is an end view of roller means of Figure 2, with parts broken away for greater clarity;

Figure 5 is an end view showing the relationship between applied adhesive material, opaque tape and transparent tape; and

Figure 6 is an end view, similar to Figure 5, showing the relationship thereof in its finished condition.

Referring more particularly to the drawings, a specific method of applying a marking stripe to a relatively flat surface or pavement 35 is illustrated. The present method does not depend on any particular machine, being capable of being performed with separate hand tools. Means for performing discrete steps of the process which may be conveniently arranged to form a continuously operating machine, are therefore schematically represented for illustration purposes only and do not form a part of the invention, per se.

To prepare a surface 35 for application of the marking stripe of the instant invention, heated air and/or exhaust gas, from a gasoline engine (not shown) is discharged into a flue gas pipe 37. The hot exhaust gases and optionally additional hot flue gases are mixed in flue gas pipe 37 and are directed against the surface 35 on which a stripe is to be applied.

A control valve 43 may be conveniently used to control a supply of gas as through a line 46 leading to an additional source of heat such as a torch 47 directed downward against the surface area 35 in front of a rotary brush 29. The heat of torch 47 and hot gases from pipe 37 are preferably shielded to direct and concentrate the heat against the surface area 35.

A continuous length of opaque tape 52 is wound in the form of a roll 48, which is unrolled as the tape 52 is pulled from the roll 48. A length of transparent tape 55 is conveniently wound in the form of a roll 54. The tape 55 is of somewhat greater width than the opaque tape 52, as shown in Figures 1 and 3-6. Transparent tape 55 is unwound from roll 54 while the spool turns in a clock-